

Enterprise Standards and Approved Products

February 2009

8000 Application Development Domain			
Category	Enterprise Standard (Web Site Links are located at end of document)	Product(s) (Web Site Links are located at end of document)	Effective Date
8100 Application Development Methodology and Software	<p>Structured Analysis & Design - Commonwealth Office of Technology's Systems Life Cycle (SLC) Methodology (COT-140)</p> <p>RUP: Rational Unified Processing: Implementing Features from RUP AND UML BASED design and analysis</p> <p>OOAD: Object Oriented Analysis and Design</p>	<p>Design/Analysis/Data Modeling:</p> <p>Design Tools:</p> <ul style="list-style-type: none"> • Rational Software Modeler • Rational Software Architect Team Foundation Solution • Microsoft - Word • Microsoft - Visio • Microsoft - Excel <p>Data Modeling:</p> <ul style="list-style-type: none"> • CA - ERwin Data Modeling Platinum <p>Analysis/Design/Modeling Library</p> <ul style="list-style-type: none"> • Docushare * • Visual Source Safe • Sharepoint Team Foundation Solution • ClearCase <p>Design Patterns</p> <ul style="list-style-type: none"> • GoF (Gang of Four) Patterns Extensibility Frameworks <p>* Not for new installations.</p>	<p>Revision date: August 25, 2008</p> <p>Effective date: July 1, 1997</p>
8200 Application Development Platform	<p>The Commonwealth of Kentucky has adopted a standard which mandates that every state agency developing or purchasing new departmental or enterprise applications must utilize one of the six application development platforms described below. Four of the platforms address legacy and traditional applications, while the final two platforms address applications intended for wireless and mobile platforms.</p> <p>Applications that will be accessed primarily via desktop or laptop computers must utilize one of the following five application development platforms, or a combination thereof.</p> <p>1. Windows DNA/COM+ Platform (Distributed interNet Applications Architecture) Microsoft combined its Component Object Model + (COM+) Technologies into a single overarching platform called Windows DNA. The platform provides an overall architecture that includes Microsoft's formerly separate ActiveX, COM/DCOM, and other Microsoft component technologies. Classic ASP Applications Using IIS 5.0 below.</p> <p>(CONTINUES ON NEXT PAGE)</p>	<p>For the .NET development environment: Comprehensive development suite for the .NET development environment:</p> <ul style="list-style-type: none"> • Microsoft Visual Studio .NET, including: <ul style="list-style-type: none"> ○ Visual Studio .NET 2008**/2005/2003 Enterprise Architect ○ Visual Studio .NET 2008**/2005/2003 Enterprise Developer ○ Visual Studio .NET 2008**/2005/2003 Professional • Expression Suite ** <p>Legacy tools for the Windows DNA/COM+ environment:</p> <ul style="list-style-type: none"> • Visual Studio • Visual Basic • Visual C++ • Visual J# • VB Scripts and Java Scripts <p>(CONTINUES ON NEXT PAGE)</p>	

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8200 cont. Application Development Platform (continued)	<p>2. <u>Microsoft .NET Platform</u> - the most recent topology of applications prescribed by Microsoft and implemented in most Microsoft development tools and runtime middleware. .NET includes the .NET Framework, a runtime multi-language application platform, and COM+, a transaction integrity extension to the Framework. .NET supports multiple programming models, including XML Web services, WebForms, WinForms and others:</p> <p>a. <u>Biztalk</u></p> <p>3. <u>IBM z/OS Platform</u> (the z/OS and earlier MVS platforms were characterized by applications written in COBOL, or Telon, executing under one of the following environments, while possibly accessing QSAM, VSAM, IMS/DB or DB2 for data access)</p> <p>a. <u>Batch Execution Environment</u> - This environment is characterized by executing under control of JES (Job Entry Subsystem) with JCL (Job Control Language). These jobs are usually scheduled with CA-Scheduler. Programs execute as steps within these jobs and are developed with various languages (including Enterprise COBOL, HASM, SAS, etc.) that usually run under LE (Language Environment).</p> <p>b. <u>IMS Subsystem</u> - The IMS subsystem is a transaction monitor that executes programs as transaction within specified IMS transaction regions. Programs execute as transactions or subprograms and are developed with various languages (including Enterprise COBOL, HASM, etc.) that run under LE (Language Environment). Development in this environment is deprecated.</p> <p>c. <u>CICS Subsystem</u> - The CICS subsystem is a transaction monitor that executes programs as transactions. Programs execute as transactions or subprograms and are developed with various languages (including Enterprise COBOL, HASM, etc.) that run under LE (Language Environment). Development in this environment is deprecated.</p> <p>d. <u>IBM Message Broker platform</u> - This is the IBM Message Broker platform that runs with IBM WebSphere Application Server. This serves as an Enterprise Service Bus and acts as a broker for application integration. Software is developed using IBM Message Broker Toolkit within the Rational Application Developer Suite.</p> <p>4. <u>UNIX Platform</u> (the traditional UNIX platform is characterized by applications written in C or C+, executing on SUN or IBM UNIX servers, while accessing data stored in Oracle databases)</p> <p style="text-align: right;"><i>(CONTINUES ON NEXT PAGE)</i></p>	<p>For the JAVA development environment</p> <ul style="list-style-type: none"> • Spring Hibernate <p>For the z/OS, UNIX, & J2EE environments:</p> <ul style="list-style-type: none"> • Rational Application Developer • Rational Software Architect • Eclipse <p>Legacy tools for the z/OS, UNIX, & J2EE environments:</p> <ul style="list-style-type: none"> • Enterprise COBOL for z/OS • SAS (Statistical Analysis System) • VisualAge COBOL • C and C++ • VisualAge C++ • Visual Age Enterprise Suite <p>Other Tools:</p> <ul style="list-style-type: none"> • Compuware File-AID (z/os) • CA Platinum • IBM QMF/SPUFI • Compuware Xpediter (z/os debugging) • Neon Shadow/Data Direct (data access db2) • TOAD (data access Oracle) • PL/SQL (data access Oracle) • Aqua Data (data access DB2) • Squirrel (data access DB2) • FxCOP (code walkthrough Microsoft) • NUnit (unit Test Microsoft) • CSLA (.net Framework) <p>Reporting Tools</p> <ul style="list-style-type: none"> • See 2310 - Business Intelligence Software <p>Developer Support Tools:</p> <ul style="list-style-type: none"> • ClearCase (Source Control) • Microsoft Visual SourceSafe Classic for (Microsoft Legacy Applications) CA-Librarian (z/os) • Microsoft Developer Network • Microsoft Windows Software Development Kit • Microsoft TechNet • IBM Redbooks • Team Foundation Solution Juit Log4J <p>** Agency Advisory - these tools have not been fully reviewed for use at an Enterprise level.</p> <p style="text-align: right;"><i>(CONTINUES ON NEXT PAGE)</i></p>	

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8200 cont. Application Development Platform (continued)	<p>5. <u>Java 2 Platform, Enterprise Edition (Java EE)</u> - a Sun Microsystems-sponsored architecture specification that prescribes application architecture for Java-based business applications. Java EE is implemented by multiple vendors and includes a J EE application server combined with Java EE message-orientated middleware. Programming models of Java EE include Java Server Pages, servlets, Session EJB and entity Enterprise JavaBeans.</p> <p>State agencies developing or purchasing new, <u>wireless</u> departmental or enterprise applications that <u>will be accessed primarily via wireless phones and PDAs</u> must utilize one of the following two application development platforms:</p> <ol style="list-style-type: none"> 1. <u>Microsoft .NET Compact Framework</u> - provides tools for developing mobile applications on Pocket PC devices and the Microsoft Smartphone. 2. <u>Java 2 Platform, Micro Edition (J2ME)</u> - a version of Java that is defined by Sun Microsystems for use in devices such as mobile phones. J2ME is part of a set of related Java technologies that includes definitions of profiles and configurations for application developers. 		
8300 Application Development Quality Management Software	<p>Application Development Quality Management Software tools provide features to assist in testing activities such as: load/stress testing, functional/regression testing, requirements traceability and security assessments.</p> <p>Need a limited product set for: economies-of-scale with respect to procurement, skills transferability required by a mobile workforce, data interchange between state government agencies, skills requirements for a competency team development environment.</p> <p>Approved Standards:</p> <ul style="list-style-type: none"> • International Organization for Standardization (ISO) • Compliance with Section 502, WCAG 1.0, WCAG 2.0, CLF, XAG Standards <p>Technical and Implementation Considerations:</p> <p>The advent of service-oriented architecture (SOA), increasing complexity and more regulations are renewing the focus on raising quality efforts, through more-effective approaches. This increases the need for solutions that are well-integrated across the application life cycle, not only during the development cycle but also into production.</p> <p>Emerging Trends and Architectural Directions:</p> <p>Requirements for testing products have changed from testing the product in isolation to integrating the testing with the rest of the product's life cycle, and to support collaboration across the QA team and among the entire project team. Therefore, IT organizations should focus on testing workflow and quality management issues across the organization when selecting a set of tools.</p>	<p>Automated Load/Stress Testing:</p> <ul style="list-style-type: none"> • Mercury LoadRunner <p>Requirements Management/Traceability:</p> <ul style="list-style-type: none"> • Mercury Quality Center <p>Defects Tracking:</p> <ul style="list-style-type: none"> • Mercury Quality Center • Seapine Software TestTrack Professional • Visual Studio Team Suite • Team Foundation Suite <p>Accessibility Validation and Repair:</p> <ul style="list-style-type: none"> • HiSoftware AccVerify • HiSoftware AccRepair <p>Application Security Assessments:</p> <ul style="list-style-type: none"> • Hewlett Packard WebInspect 	Effective date: February 18, 2009

Web Site Links:

External Links: Some of the following links resolve to non-governmental agencies. The information on these pages is not controlled by COT or the Commonwealth of KY.

Category:	Link:	URL:
8200	2310 – Business Intelligence Software	http://gotsource.ky.gov/docushare/dsweb/Get/Document-301104
8200	Aqua Data	http://www.aquafold.com/
8200	C and C++	http://www.cprogramming.com/
8100, 8200	CA - ERwin Data Modeling Platinum	http://www.ca.com/us/data-modeling.aspx
8100, 8200	ClearCase	http://www-01.ibm.com/software/awdtools/clearcase/
8100	Commonwealth Office of Technology's Systems Life Cycle (SLC) Methodology (COT-140)	http://gotsource.ky.gov/docushare/dsweb/Get/Document-204002/
8200	Compuware File-AID	http://www.compuware.com/products/fileaid/default.htm
8200	Compuware Xpediter	http://www.compuware.com/products/xpediter/default.htm
8200	CSLA	http://www.lhotka.net/cslanet/
8100	Docushare	http://docushare.xerox.com/
8200	Eclipse	http://www.eclipse.org/
8200	Enterprise COBOL for z/OS	http://www-01.ibm.com/software/awdtools/cobol/zos/
8200	Expression Suite	http://www.microsoft.com/expression/
8200	FxCOP	http://msdn.microsoft.com/en-us/library/bb429476.aspx
8100	GoF (Gang of Four) Patterns Extensibility Frameworks	http://www.dofactory.com/Patterns/Patterns.aspx
8300	Hewlett Packard WebInspect	https://h10078.www1.hp.com/cda/hpms/display/main/hpms_content.jsp?zn=bto&cp=1-11-201-200%5E9570_4000_100
8300	HiSoftware AccRepair	http://www.hisoftware.com/products/accrepair.html
8300	HiSoftware AccVerify	http://www.hisoftware.com/products/accverify.html
8200	IBM QMF/SPUFI	http://www-01.ibm.com/software/data/qmf/
8200	IBM Redbooks	http://www.redbooks.ibm.com/
8100	Microsoft - Excel	http://office.microsoft.com/en-us/excel/default.aspx
8100	Microsoft - Visio	http://office.microsoft.com/en-us/visio/default.aspx
8100	Microsoft - Word	http://office.microsoft.com/en-us/word/default.aspx
8200	Microsoft Developer Network	http://msdn.microsoft.com/en-us/default.aspx
8200	Microsoft TechNet	http://technet.microsoft.com/en-us/default.aspx
8200	Microsoft Visual SourceSafe	http://msdn.microsoft.com/en-us/library/aa302175.aspx
8200	Microsoft Visual Studio .NET	http://msdn.microsoft.com/en-us/library/fx6bk1f4(VS.71).aspx

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Category:	Link:	URL:
8200	Microsoft Windows Software Development Kit	http://msdn.microsoft.com/en-us/default.aspx
8200	Neon Shadow/Data Direct	http://www.datadirect.com/products/mainframe-integration/index.ssp
8200	NUnit	http://www.nunit.org/index.php
8100	Object Oriented Analysis and Design	http://www.ooad.org/
8200	PL/SQL	http://www.oracle.com/technology/tech/pl_sql/index.html
8200	Rational Application Developer	http://www-01.ibm.com/software/awdtools/developer/application/
8200	Rational Software Architect	http://www-01.ibm.com/software/awdtools/architect/swarchitect/
8100	Rational Software Architect Team Foundation Solution	http://www-01.ibm.com/software/rational/
8100	Rational Software Modeler	http://www-01.ibm.com/software/awdtools/modeler/swmodeler/
8100	Rational Unified Processing	http://www-01.ibm.com/software/awdtools/rup/
8200	SAS (Statistical Analysis System)	http://www.sas.com/
8300	Seapine Software TestTrack Professional	http://www.seapine.com/ttpro.html
8100	Sharepoint Team Foundation Solution	http://msdn.microsoft.com/en-us/library/ms253053(VS.80).aspx
8200	Spring Hibernate	http://www.ibm.com/developerworks/library/wa-spring2/
8200	Squirrel	http://www.ibm.com/developerworks/data/library/techarticle/dm-0312bhogal/
8300	Team Foundation Suite	http://www.microsoft.com/india/vsts/team_suite.aspx
8200	TOAD	http://www.toadsoft.com/toad_oracle.htm
8200	Visual Age Enterprise Suite	http://www-01.ibm.com/software/awdtools/visgen/
8200	Visual Basic	http://www.microsoft.com/visualstudio/en-us/products/teamsystem/default.aspx?pt_id=-1&WT.mc_id=B66C779D-0907-4EE1-9435-FED85F10C8E2&WT.srch=1&wt.mc_id=vspdsrch
8200	Visual C++	http://msdn.microsoft.com/en-us/visualc/default.aspx
8200	Visual J#	http://msdn.microsoft.com/en-us/vjsharp/default.aspx
8100	Visual Source Safe	http://msdn.microsoft.com/en-us/library/aa302175.aspx
8200	Visual Studio	http://www.microsoft.com/visualstudio/en-us/products/teamsystem/default.aspx?pt_id=-1&WT.mc_id=7CA85EDC-99B9-473E-94F1-8C6784D15490&WT.srch=1&wt.mc_id=vspdsrch
8300	Visual Studio Team Suite	http://www.microsoft.com/visualstudio/en-us/products/teamsystem/default.aspx?pt_id=-1&WT.mc_id=C070A640-AF54-476A-859F-65CF00C4D33E&WT.srch=1&wt.mc_id=vspdsrch
8200	VisualAge C++	http://www-01.ibm.com/software/awdtools/vacpp/
8200	VisualAge COBOL	http://www-01.ibm.com/software/awdtools/cobol/va/